**WebQuest: Tsunamis**

**Killer Waves Strike the Coast**

**Task**

In this WebQuest, you will learn about the awesome power of tsunamis and their cost in human life and property. You also will investigate how scientists worldwide work to alert and educate people about the catastrophic consequences of a tsunami event. You will use the Internet to research the topic, and answer questions to demonstrate your understanding of what causes tsunamis and how coastal residents are affected by them. Finally, you will use the knowledge you've gained to write a series of three newspaper articles that could appear in a local newspaper. The purpose of these articles is to educate coastal residents about the causes and characteristics of tsunamis, their devastating potential to destroy human life and property, and what individuals can do to stay alive if a killer wave strikes in their area.

**Resources**

The Web sites given here will help you answer questions about tsunamis and the dangers they pose in coastal areas. The information you gather will help you develop a series of newspaper articles designed to educate people about these powerful waves.

<http://www.geophys.washington.edu/tsunami/intro.html>  
This site offers information about how tsunamis are generated, as well as how people in coastal areas are warned about these events. The site includes a survey of great tsunamis throughout history, and describes how coastal residents can protect themselves whether on land or sea during one of these events.

<http://www.frontiernet.net/~docbob/waves.htm>  
Find clear, easy-to-understand answers to questions including "How do tsunamis form?", "How big do they get?", and "How much destruction do they cause?" at this site.

<http://cwis.usc.edu/dept/tsunamis/>  
This site has a world map which leads to information about some of the most devastating recent tsunamis. Video and simulations of tsunami activity can also be viewed at this site.

<http://www.ngdc.noaa.gov/seg/hazard/slideset/tsunamis>  
Amazing pictures and brief descriptions of major tsunami events can be found at this site.

<http://observe.arc.nasa.gov/nasa/exhibits/tsunami/tsun_bay.html>  
Learn about tsunamis in general, historic tsunami events, and how to survive a tsunami in the tutorial at this site. Sponsored by NASA's Observatorium, a public access site for Earth and space data, the site also offers a tsunami quiz to test your knowledge about these awesome waves.

<http://www.sthjournal.org/>  
The magazine "Science of Tsunami Hazards" posts articles from recent issues on this site.

<http://www.pmel.noaa.gov/tsunami/>  
The National Oceanographic and Atmospheric Association operates this site which provides information about tsunami modeling and forecasting and recent tsunami events. Answers to frequently asked questions about tsunamis are also addressed.

<http://www.tsunami.org>  
This site is operated by the Pacific Tsunami Museum in Hilo, Hawaii. Visit the site to view photos and read survivor stories and other articles about tsunamis.

<http://www.fema.gov/kids/tsunami.htm>  
This site offers tsunami photos, information about how tsunamis are measured, and tips for protecting yourself, your pets, and your home during natural disasters.

**Process**

Read the following series of questions before beginning your research. As you explore each Web site, look for answers to the questions.

***Questions about Tsunamis***

1. Define the term tsunami and describe some of the characteristics of tsunamis. In what ways do tsunamis differ from other water waves?
2. What are some natural events that can generate a tsunami?
3. The term tsunami is a Japanese world whose English translation is "harbor wave." Tsunamis are often inaccurately referred to as "tidal waves" or "seismic sea waves." Explain why neither of these terms correctly describes a tsunami.
4. Roughly four out of five tsunamis happen in an area called the "Ring of Fire," which roughly encompasses the Pacific Ocean. Why are tsunamis most common in coastal areas bordering the Pacific Ocean?
5. Create a chart which shows approximately ten of the most destructive tsunamis of the past and current century. Include as much of the following information as possible: date and time the tsunami occurred, world locations most affected, cause, number of people killed, and the amount of property damage incurred.
6. Two tsunami warning centers are operated by the National Oceanographic and Atmospheric Administration in the United States. Describe where they are located, and identify the locations they serve. How do these centers disseminate warnings about potential tsunami activity?

Next, visit the Web sites listed. Use the information from your research to answer the questions. As you study the sites, remember that you will use the information you gather to write a series of three newspaper articles that will educate coastal residents about the dangers of tsunamis, tsunami events that have occurred throughout history, and how to prepare for and stay safe during a tsunami.

Based on your research, think about the general focus and tone of the three newspaper articles you will write. Keep the following guidelines in mind:

* Your target audience is made up of people who live in a coastal area that could be affected by a tsunami.
* The purpose of the series is to educate readers about the characteristics of and dangers associated with tsunamis, as well as how to stay safe during a tsunami event.
* The articles should have the length and flavor of those found in a local newspaper. The writing style should keep the reader interested and engaged in learning about tsunamis.
* A photograph or diagram might be used to heighten reader interest and provide focus for an article. Be sure to reference the source of any visual element used in an article.

Next, make decisions about the specific content and organization of each article in the series. Consider these suggestions as you develop an outline for each article:

* Educate readers about tsunamis in general. Describe where they typically occur, what they are like, and how they differ from other water waves. Explain the various causes of tsunamis, and why they are most often generated in the Pacific Ocean. Describe how coastal areas and populations are affected by a tsunami event.
* Discuss how the scientific community and emergency management personnel work to keep people informed about potential tsunami events. Explain where tsunami warning centers are located and identify the areas they serve. Describe how they disseminate information, as well as how a coastal resident might remain aware of issued warnings. Discuss how to best prepare for and react to a tsunami warning to increase chances of surviving the event.
* Choose one or more historical tsunami events to chronicle. Describe how the local community was affected by the tsunami. Photographs, stories, and quotes from survivors will make your writing more realistic.

Each article needs to be at least half of a page long typed or one page written in pen (black or blue ink). Grammar is important. This will be a test grade and it is due **Tuesday November 10th**. There will be **no excuse** for missing this project. If you are going to be absent that day turn it in early or email it to me. If I do not have the project on the 10th you will receive a **zero for a test grade**.

**Newspaper Article Rubric**

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| **Newspaper Article Rubric** | **Points Possible** | **Self-Assessment** | **Teacher Assessment** |
| The articles are clear, well-written, and easy to follow. | 20 |  |  |
| The articles are research-based and include factual information. | 20 |  |  |
| The articles are both interesting and informative. | 20 |  |  |
| The articles have the tone and feel of actual newspaper articles. | 20 |  |  |
| Overall “Goodness” | 20 |  |  |